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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,913	09/17/2003	Peter Sopp	A34661-PCT-USA	7118
21003	7590	04/21/2005	EXAMINER	
BAKER & BOTTS			BARNES, CRYSTAL J	
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NEW YORK, NY 10112			PAPER NUMBER	

2121

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/937,913	<b>Applicant(s)</b> SOPP ET AL.	
	<b>Examiner</b> Crystal J. Barnes	<b>Art Unit</b> 2121	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-23 is/are rejected.
- 7) ☒ Claim(s) 12-19, 21 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/1/01 &amp; 6/28/04</u> . | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

1. The following is an initial Office Action upon examination of the above-identified application on the merits. Claims 1-10 have been cancelled. Claims 11-23 are now pending in this application.

#### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Information Disclosure Statement***

3. The examiner has considered the information disclosure statements (IDS) submitted on 01 October 2001 and 28 June 2004.

#### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: bus systems 23 and 24 do not appear in figure 1. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action

to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

5. The abstract of the disclosure is objected to because the phrase "the rolling mill, especially the mill train" in lines 1-2 should not be repeated. Correction is required. See MPEP § 608.01(b).

### *Claim Objections*

6. Claims 12-19, 21 and 23 are objected to because of the following informalities: these claims depend from cancelled claims. Appropriate correction is required.

*Claim Rejections - 35 USC § 102*

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 11-17 and 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 4,037,087 to Foulds.

As per claim 11, the Foulds reference discloses a master control system for a rolling mill, comprising at least one rolling stand (see column 3 lines 4-7, "stands"), driven by a drive system (see column 3 lines 12-25, "drive motor 16, speed controllers 17, screwdown controller 25"), an automation device (see column 3 lines 15-20 and 30-35, "control computer 19") for the open-loop and/or closed-loop control of the rolling stand ("stand"), and a commissioning computer (see column 3 lines 37-40, "operator's desk 20"), wherein the commissioning computer ("operator's desk 20") is designed for the commissioning of the drive system ("drive motor 16, speed controllers 17, screwdown controller 25") and of the

automation device ("control computer 19"), and has at least one bus system (see column 3 lines 15-20 and 30-35, "buses 21, 27, 28") for the transmission of operating parameters ("speed preset signals, screwdown preset signals") and/or program code from the commissioning computer ("operator's desk 20") to at least one component comprising the drive system ("drive motor 16, speed controllers 17, screwdown controller 25") and the automation device ("control computer 19"), and further wherein the bus system ("buses 21, 27, 28") is designed for the transmission of information (see column 3 lines 37-40, "update program") necessary for the operation of the rolling mill (see column 3 lines 4-5, "rolling mill 10") between the drive system ("drive motor 16, speed controllers 17, screwdown controller 25") and the automation device ("control computer 19").

As per claim 12, the Foulds reference discloses further comprising an operator-control computer (see column 4 lines 49-60, "speed displays 42, screwdown displays 43" and column 8 lines 4, "computer operator's panel 68") for monitoring and/or influencing the rolling mill ("rolling mill 10") and wherein the commissioning computer ("operator's desk 20") is designed for the commissioning of the operator-control computer ("speed displays 42, screwdown displays 43, computer operator's panel 68").

As per claim 13, the Foulds reference discloses the bus system (see column 4 lines 65-68, "bus 48") is designed for the transmission of operating parameters ("operating data, order data") and/or program code (see column 3 lines 37-40, "update program") from the commissioning computer ("operator's desk 20") to the operator-control computer ("speed displays 42, screwdown displays 43, computer operator's panel 68").

As per claim 14, the Foulds reference discloses the bus system (see column 3 lines 15-20 and 30-35, "buses 21, 22, 27, 28, 29") is designed for the transmission of information ("speed preset signals, screwdown preset signals, update program") necessary for the operation of the rolling mill ("rolling mill 10") between the operator-control computer ("speed displays 42, screwdown displays 43, computer operator's panel 68") and at least one of the components comprising the drive system ("drive motor 16, speed controllers 17, screwdown controller 25") and the automation device ("control computer 19").

As per claim 15, the Foulds reference discloses further comprising at least one first bus system (see column 4 lines 1-5, "bus 35") for the transmission of operating parameters ("signals") and/or program code from the commissioning computer ("operator's desk 20") to the automation device ("control computer 19"),

wherein the commissioning computer ("operator's desk 20") and the automation device ("control computer 19") are connected by a data link (see column 4 lines 17-25, "switch contacts 34a, 34b"), and at least one second bus system (see column 4 lines 9-16, "buses 21, 27, 28, 38, 39") for the transmission of operating parameters ("signals") and/or program code to the drive system ("controllers 17, 25"), wherein the automation device ("control computer 19") and the drive system ("controllers 17, 25") are connected by a data link (see column 4 lines 17-21, "switch contacts 34 c, 34d").

As per claim 16, the Foulds reference discloses the second bus system ("buses 21, 27, 28") is designed for the transmission of information ("signals") necessary for the operation of the rolling mill ("rolling mill 10"), between the automation device ("control computer 19") and the drive system ("controllers 17, 25").

As per claim 17, the Foulds reference discloses further comprising an operator-control computer ("speed displays 42, screwdown displays 43, computer operator's panel 68") for monitoring and/or influencing the rolling mill ("rolling mill 10"), wherein the operator-control computer ("speed displays 42, screwdown displays 43, computer operator's panel 68") is connected to the first bus system



("bus 35") by a data link (see column 4 lines 17-21, "switch contacts 34a, 34b"), and the first bus system ("bus 35") is designed for the transmission of information ("signals") necessary for the operation of the rolling mill ("rolling mill 10") between the operator-control computer ("speed displays 42, screwdown displays 43, computer operator's panel 68") and the automation device ("control computer 19").

As per claim 19, the Foulds reference discloses the rolling mill ("rolling mill 10") is a mill train (see column 3 lines 4-7, "train").

As per claim 20, the Foulds reference discloses a rolling mill comprising at least one rolling stand (see column 3 lines 4-7, "stands") driven by a drive system (see column 3 lines 12-25, "drive motor 16, speed controllers 17, screwdown controller 25"), and a master control system (see column 3 lines 4-7, "conventional computer") with an automation device (see column 3 lines 15-20 and 30-35, "control computer 19") for the open-loop and/or closed-loop control of the rolling stand ("stands"), and a commissioning computer (see column 3 lines 37-40, "operator's desk 20"), wherein the commissioning computer ("operator's desk 20") is designed for the commissioning of the drive system ("drive motor 16, speed controllers 17, screwdown controller 25") and of the automation device ("control computer 19"), further comprising at least one bus system (see column 3 lines 15-20 and 30-35,

"buses 21, 27, 28") for the transmission of operating parameters ("speed preset signals, screwdown preset signals") and/or program code ("update program") from the commissioning computer ("operator's desk 20") to at least one component comprising the drive system ("drive motor 16, speed controllers 17, screwdown controller 25") and the automation device ("control computer 19"), and wherein the bus system ("buses 21, 27, 28") is designed for the transmission of information ("signals") necessary for the operation of the rolling mill (rolling mill 10), between the drive system ("drive motor 16, speed controllers 17, screwdown controller 25") and the automation device ("control computer 19").

As per claim 21, the Foulds reference discloses said mill ("rolling mill 10") is a mill train (see column 3 lines 4-7, "train").

As per claim 22, the rejection of claim 20 is incorporated and further claim 22 contains limitations recited in claim 20; therefore claim 22 is rejected under the same rationale as claim 20.

As per claim 23, the Foulds reference discloses the rolling mill ("rolling mill 10") is a mill train (see column 3 lines 4-7, "train").

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,037,087 to Foulds in view of logical reasoning.

As per claim 18, the Foulds reference does not expressly disclose further comprising at least two automation devices of different types and wherein the commissioning computer is designed for the commissioning of both automation devices.

However, it would have been logically to one of ordinary skill in the art to modify the rolling mill computer control system to include a plurality of control computers to provide distributed control and/or redundant control of rolling stands.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the rolling mill computer control system

taught by the Foulds reference to include a plurality of control computers to provide distributed control and/or redundant control of rolling stands.

One of ordinary skill in the art would have been motivated to modify the rolling mill computer control system to include a plurality of control computers to provide distributed control and/or redundant control of rolling stands to improve automatic control of rolling mills.

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to optimization or adaptive process control in general:

USPN 4,909,055 to Blazevic

USPN 4,662,202 to Lambert

USPN 4,274,273 to Fapiano et al.


USPN 4,261,190 to Fapiano

USPN 4,130,883 to Hazelton

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal J. Barnes whose telephone number is 571.272.3679. The examiner can normally be reached on Monday-Friday alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571.272.3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



CJB

18 April 2005